

memorandum

Idaho Operations Office

Date: September 17, 1998

Subject: Submittal of Idaho Operations Office Technical Qualification Program Phase 1 Assessment (CFAO-HRD-98-138)

To: Steven D. Richardson, Chair
Federal Technical Capability Panel
Oak Ridge Operations Office

DOE-ID completed our Technical Qualification Program Phase 1 Assessment on August 25, 1998. The attached report details the results of the assessment and is a deliverable under commitment 5.4.2 of the *Revised Implementation Plan for Improving DOE Technical Capability in Defense Nuclear Facilities Programs*.

The assessment was based on an internal evaluation of the DOE-ID Technical Qualification Program. The report identifies strengths and weaknesses, and provides recommendations for improvement. DOE-ID has prepared an action plan addressing the recommendations, and all corrective actions performed will utilize Systematic Approach to Training principles.

If you have any questions or require additional information, please contact Richard Waite at (208) 526-1301 or Steve Somers at (208) 526-0594.



J. M. Wilcynski
Manager

Attachment

U. S. Department of Energy

**Idaho Operations Office
Technical Qualification Program**

Phase I Self Assessment



August 25, 1998

R Waite

Richard S. Waite

W. Stephen Somers

W. Stephen Somers

Section 1.0 Executive Summary

The Department of Energy Idaho Operations Office (DOE-ID) Phase I Self-Assessment of the Technical Qualification Program (TQP) was conducted in July and August of 1998. This report outlines the findings of that assessment and makes recommendations regarding areas for improvement. This self-assessment, besides being a method to improve the DOE-ID TQP, fulfills Commitment 5.4.2 of the Revised Implementation Plan for Board Recommendation 93-3.

The assessment found the Technical Qualification Program as implemented at DOE-ID has been effective in documenting the technical qualifications of the personnel directly responsible for managing the contractor and providing oversight. In general, the TQP did not “cause” the technical qualification, as highly qualified personnel have historically been recruited into our office. The TQP has provided a mechanism to verify the existing technical competence to established and consistent standards.

As with any effective self-assessment this report identifies both strengths and weaknesses in the program. It is the view of the team that the strengths identified should provide DOE-ID management with a confidence in both the DOE-ID Technical Qualification Program and the competence of the technical staff. The weaknesses do not represent significant programmatic breakdowns but are opportunities to enhance the established program. The report provides recommendations which ID management should consider to better meet the long-term technical qualification program needs of the Idaho Operations Office.

Section 2.0 Introduction

This report documents the self-assessment conducted by the Idaho Operations Office (DOE-ID) to evaluate the Technical Qualification Program (TQP) implemented in response to the Defense Nuclear Facility Safety Board (DNFSB) Recommendation 93-3. In the DOE response to the recommendation the Department made certain commitments to enhance the ability of Federal Employees to perform their safety responsibilities. The development and implementation of a Technical Qualification Program was an initial step. One of the logical follow-on steps (and another commitment to the DNFSB) was for each DOE element responsible for implementing the TQP to evaluate and upgrade the TQP based upon a formal assessment process. This report will be presented to DOE-ID Management and provided to the Chair of the Federal Technical Capability Panel thereby fulfilling Commitment 5.4.2 of the revised Implementation Plan for Recommendation 93-3.

DOE-ID responded to the Implementation Plan for Recommendation 93-3 through the development and implementation of a Technical Qualification Program (OT-951) which is administered by the Human Resources Division. It established a three tiered approach to qualification. All participants were expected to complete the General Technical Base Qualification Standard (GTBQS), the Functional Area Qualification Standard (FAQS) which was based on position requirements, and an Office/Facility Specific Qualification Module (OFSQM) which is specific to the facility to which the participant is assigned.

The TQP established roles and responsibilities for various DOE-ID organizational entities. The Technical Qualification Program provided criteria for candidate selection and required that candidates be identified for inclusion in the program. The initial group of candidates which have remained in the positions requiring qualification have all satisfactorily completed their initial qualification program. This initial set of candidates was responsible for completion of specific FAQS, which spread across 16 of the 23 functional areas. Since that time, some candidates have left government service or moved to positions with other duties.

This report identifies program strengths, program weaknesses and makes specific recommendations for improvements to the DOE-ID Technical Qualification Program. It is expected that the enhancements to the TQP recommended will continue to improve the Idaho Operations Offices ability to oversee and manage the operations at the Idaho National Engineering and Environmental Laboratory (INEEL) in a safe and effective manner.

Section 3.0 Scope and Methodology

The DOE-ID Self Assessment was conducted by Richard S. Waite of the DOE-ID Human Resources Division and W. Stephen Somers of the Office of Program Execution, Operational Safety Division. William D. Jensen, DOE Senior Technical Agent to the Federal Technical Capability Panel provided oversight and management assistance during the self-assessment. The Technical Qualification Program Assessment Objectives and Criteria dated July 1998 were used as the basis for the areas of inquiry. A review of the Idaho Operations Office Technical Qualification Program (OT-951) was performed, interviews were conducted which included all levels of DOE-ID staff and management responsible for implementation of the program. In addition, some individuals and line management not currently in the TQP were interviewed to provide a perspective as to the adequacy of the overall DOE-ID approach to the TQP. Training records were reviewed for completeness and adequacy to document compliance with the requirements of OT-951.

The following objectives represent the areas reviewed:

- TQP-1 **Demonstration of Competence:** The program clearly identifies and documents the process used to demonstrate employee technical competence.
- TQP-2 **Competency Levels:** Competency requirements are clearly defined and consistent with applicable industry standards for similar occupations.
- TQP-3 **Plans and Procedures:** Plans and/or procedures are developed and implemented to govern the administration of the program.
- TQP-4 **Qualification Tailored to Work Activities:** The program includes the identification of unique Department and position-specific work activities, and the knowledge and skills necessary to accomplish that work.
- TQP-5 **Credit for Existing Technical Qualification Program(s):** The program is structured to allow credit, where appropriate, for other technical qualification program accomplishments.
- TQP-6 **Transportability:** Competency requirements that are identified as having Department-wide applicability are transferable.
- TQP-7 **Measurable:** The program contains sufficient rigor to demonstrate compliance to the principles.

Finally, the DOE-ID Technical Qualification Program (OT-951) was compared to the requirements of DOE Order 360.1, TRAINING, and the Revised Implementation Plan for Improving DOE Technical Capability in Defense Nuclear Facilities Program, issued March 31, 1998 to assure all relevant requirements and commitments are being met.

Section 4.0 Program Strengths

- 4.1 The Technical Qualification Program (TQP) as implemented at DOE-ID has established a formal process to identify positions requiring participation in the TQP based on the DOE Implementation Plan to DNFSB Recommendation 93-3. This process is specified in DOE-ID procedure OT-951. Participation in the program has focused on those individuals which have the most direct potential impact on the safe operation of the facilities at the INEEL as reflected in the Facility Representative and Senior Technical Safety Manager qualification programs. The TQP process was recognized by those interviewed as having established a process by which DOE-ID management can more uniformly evaluate the technical competence of personnel.
- 4.2 The current three tiered qualification process (General Technical Base, Functional Area, and Office/Facility Specific) has established an initial TQP, which adequately defines the competency requirements. DOE-ID has emphasized the knowledge, skill and ability elements contained in the Office/Facility Specific Qualification Standards in a manner which has been effective and useful to DOE-ID Facility Management. In general, this emphasis on the Office/Facility Specific Qualification Standards has overcome the weaknesses perceived in relating the Functional Area qualification standards to the actual "role of the Fed" at DOE-ID.
- 4.3 The DOE Idaho Technical Qualification Program document (OT-951) provides an adequate definition of the processes and requirements to implement the Technical Qualification Program at DOE-ID. The roles and responsibilities have been clearly defined and were generally understood by those interviewed.

- 4.4 The TQP has supported the mission needs of DOE-ID in that it has established a consistent set of criteria for the evaluation of technical competence of those in the TQP. As such it has provided DOE-ID with a defensible documented verification of the technical competence of the participants. However, due to what was considered by DOE-ID line management to have been an initially high level of technical competence of the staff, it has not made an appreciable change in the competence. Rather, it has documented the competence that in most cases already existed. The Office/Facility Specific qualification standards have been the primary point at which the unique DOE-ID training and qualification needs have been addressed.
- 4.5 The Idaho Operations Office has had the advantage of close access to an extensive pool of technically qualified applicants for positions at DOE-ID from the Naval Nuclear Power Program which until recently maintained prototype training facilities at the INEEL. The DOE-ID use of this resource has allowed for on-site facility, operational and programmatic oversight to be performed by staff well trained in nuclear operations and experienced in one of the most important aspects of effective oversight, technical inquisitiveness, long before the Defense Nuclear Facility Safety Board was established by Congress. The TQP, through the use of equivalency, has allowed DOE-ID to effectively take credit for the previous training, education and experience by those and other appropriately qualified individuals.
- 4.6 DOE-ID managers interviewed indicated a willingness to consider competency requirements that are identified as having Department-wide applicability (General Technical Base and Functional Area) transferable. However, to date there has been no actual transfers of fully qualified staff from another DOE Office to DOE-ID. The managers interviewed did appropriately indicate that Office/Facility Specific qualifications would be required for such transfers and during that qualification, spot checks of General Technical and Functional Area knowledge would be made, although no requirements exist to perform such a review.
- 4.7 Throughout the interviews conducted with supervisors of TQP personnel it was clear that the technical competency established by the program was adequate and appropriate. It was however, the consensus of those interviewed that the current competence of DOE-ID staff was based primarily on the personnel in the TQP being hired with a high level of technical competence, not having the technical competence being caused by the TQP. There was general acknowledgment of the advantage to DOE-ID of having DOE-ID staff qualified to formally established criteria in assuring a more consistent "base" knowledge level, particularly in the area of the Office/Facility Specific qualification standards.

The commitment of DOE-ID senior management to the TQP was evident during the interviews. Oversight and a technical competency verification was provided routinely by the DOE-ID Technical Qualification Program Alter Ego through his final review of the TQP documentation and in most cases an oral spot check of the knowledge of each TQP participant. DOE-ID senior management shared the view that ID has benefited from a long history of technically competent staff and the TQP process primarily allowed us to document that competence through established "base knowledge criteria".

The system for documenting training and qualification records has been established, however there have been various methods applied by DOE-ID organizations to provide the documentation.

The DOE-ID Facility Directors have provided feedback to the TQP to ensure that it meets the changing needs of the office. That feedback has primarily been focused on the Office/Facility Specific qualification standards. However, these efforts have generally been driven by individual facility mission changes and have not been driven by revised needs assessments or approached in a consistent manner. This assessment is the first formal evaluation of the DOE-ID TQP.

Section 5.0 Program Weaknesses

- 5.1.a The process used to identify positions to be in the TQP has identified numerous individuals requiring participation, however, the predetermined “Functional Area” qualifications have not been useful or reflective of the actual duties of positions such as the Facility Engineers. This has lead to the assignment of a required qualification “Functional Area” which does not, in some cases, completely reflect the duties and responsibilities carried out by those individuals. The removal by DOE-HQ of the “Technical Manager” functional area qualification is viewed as error, which should be reconsidered.
- 5.1.b The process used by DOE-ID (Ref. OT-951, Attachment A) to determine participation in the TQP focuses on those individuals “ whose position requires them to provide management direction or oversight that could impact the safe operation of a defense nuclear facility.” (Ref. DOE O 360.1). Although it is understood that this initial definition of a “technical person” was tied to the DOE Implementation Plan in order to respond to DNFSB Recommendation 93-3, in some cases (Facility Representative and Senior Technical Safety Manager for the Idaho Research Complex and the Central Facilities Area) DOE-ID has chosen to include individuals in the TQP which would not be required to participate. Due to the need for federal employees to provide management direction and oversight to facilities which are not strictly “defense nuclear facilities” the current TQP applicability limitation contained in DOE Order 360.1 Chapter II, 1. b. should be reconsidered. In addition, because of the duties and responsibilities, which may result in management direction or oversight being provided to the contractor, the DOE-ID established exclusion (OT-951, Attachment A, Step 2, Note:) for “Program managers” should be eliminated.
- 5.1.c The currently established prerequisite knowledge and experience for inclusion in the Senior Technical Safety Manager qualification program limits participation to those with 1) A technical degree, 2) Extensive experience in a technical work area, and 3) Recognition as a subject matter expert in a technical area. DOE-ID understands the basis for establishing this initial set of criteria. However, the use of these prerequisites as the sole basis for participation may have the potential for unnecessarily excluding individuals, which have the ability to demonstrate their technical competence and perform the duties of a Senior Technical Safety Manager in a competent and effective manner.
- 5.1.d. Although the technical qualification records for those individuals in the TQP have in some cases reflected activities or classes used to satisfy competencies, the Individual Development Plans have generally not been used. Reference documents for use in identifying available and acceptable courses to meet TQP requirements, such as the DOE Universal Catalog and the EH Course Catalog, are typically not user friendly, nor uniform and standardized in their identification of TQP acceptable courses. It is also not

clear that the Department, on a centralized basis, has updated or revised existing DOE sponsored courses to be more closely tied to the needs of the TQP.

- 5.2 There were no weaknesses identified associated with TQP-2.
- 5.3 Although the roles and responsibilities associated with the TQP are clearly defined in the Technical Qualification Program (OT-951) the actual implementation of those responsibilities at the first line supervisor (division director) level has been inconsistent. There have been examples of TQP status due to personnel transfers not being kept up to date, along with delays in identification of appropriate TQP functional area participation. In order to improve performance in this area, a recent training session was conducted, however, as revisions to the TQP are made to the roles and responsibilities, this training will need to be revisited. It has also been suggested that DOE-ID Human Resources could establish personnel transfer checklist to trigger supervisor attention to the TQP requirements.
- 5.4.a. The Functional Area qualification standards created and promulgated by DOE-HQ are viewed as being a reflection of nonspecific DNFSB concerns regarding the technical qualification of DOE staff. The initial step of a Systematic Approach to Training (SAT) is to identify the training/performance requirements through an "analysis" of the job/duties/responsibilities of the position for which the training or qualification is being developed. It is not clear that an evaluation of the adequacy of the functional area standards, and their ability to meet DOE needs, has been performed since their inception. There are some uncertainties as to whether the Functional Area qualification standards truly meet the needs of DOE-ID.
- 5.4.b. The Position Descriptions (PDs) related to various positions at DOE-ID have had limited use in the determination of the appropriate Functional Area an individual should qualify in. A closer linkage of the PDs to the TQP would better serve the needs of DOE-ID managers who may have staff requiring participation in the TQP.
- 5.4.c The Functional Areas established by DOE-HQ have been difficult in some cases to apply to the operations and oversight responsibilities of DOE-ID. To date there has not been a correlation of those functional areas to the "critical skills" evaluations conducted, nor to the staffing plan.
- 5.5 The process for granting equivalency for previous training, education and experience is documented in the DOE-ID Technical Qualification Program (OT-951) and is reflected in the qualification card available for use by DOE-ID personnel on the computer system "O drive". However, a review of the completed qualification cards indicated that there was considerable confusion as to the proper blocks to be used for signoff.
- 5.6.a. One specific area of competency not covered by the current TQP has been identified by DOE-ID, which may have Department-wide applicability. That would be a Functional Area qualification focused on the responsibilities of Transportation Specialists. With the advent of the transfer of foreign nuclear reactor fuels back for DOE storage and the planned transfer of large quantities of nuclear waste from the various DOE sites to the Waste Isolation Pilot Plant (WIPP) the need for an appropriate "needs based" qualification program for those responsible for transportation activities increases.

- 5.6.b. The interview with the Director of DOE-ID Human Resources indicated he believed that the transfer of Technical Qualification Program records between DOE sites was appropriate and transferability would be recognized. However, there currently is no formal process within the Department's Human Resource organizations to assure that such records are transferred. TQP records are not maintained in the Official Personnel Files (OPFs) and as such, are not sent to other offices upon employee transfers.
- 5.6.c. Individuals interviewed indicated that the integration of the TQP with personnel-related activities such as position descriptions and vacancy announcements could be improved. A more complete integration of these activities would make changes in staff assignments more closely and effectively linked to the TQP.
- 5.7.a. Although the technical competency of the personnel who have completed the requirements of the TQP is judged as adequate and appropriate, interviewees indicated that the rigor with which the oral checkouts were performed were not always consistent. The initial qualification of DOE-ID TQP participants was to a great extent a "boot strap" effort since initially no one was "qualified". Having completed the initial wave of TQP qualifications, it appears appropriate that the list of DOE-ID "Qualifying Officials" be updated to reflect the existing qualifications. In addition, to assure a better consistency in oral checkouts, a specific training session and qualification for those "Qualifying Officials" should be established.
- 5.7.b. The DOE-ID Technical Qualification Program (OT-951, section 6.9) identifies the general requirements for continuing training/post qualification activities. In addition, each Functional Area qualification standard identifies general requirements for continuing training for that particular standard. With the exceptions of Safeguards and Security (S&S) and the Facility Representative (FR) programs, a more detailed process for continuing training at DOE-ID, based on the needs of the TQP, does not exist. Although activities, which accomplish continuing training for S&S & FR, are being conducted, they are not currently documented in the employee's Qualification Record. DOE-ID should establish the process for performance, and documentation of the required continuing training programs specific to each functional area.
- 5.7.c. Although the record system for the TQP is well established and controlled by the DOE-ID Human Resources organization, a review of the records identified numerous discrepancies in Qualification Record content. In order to improve the audibility of the records, efforts should be made to remove redundant material and attach background information and supporting documentation in a consistent manner. In addition, each participant in the TQP and their supervisor should be reminded of their responsibilities for qualification record documentation as discussed in OT-951, section 6.4.
- 5.7.d. The TQP Tracker software does not currently include tracking capability for the Office/Facility Specific Qualification Modules. In addition, information contained in TQP Tracker has not been rigorously maintained. Because of this, TQP Tracker has been of limited use to provide accurate status information for ID line management and Human Resource Division.

Section 6.0 Recommendations

The following recommendations are presented in an order, which reflects the reviewer's consideration of significance. It is expected that DOE-ID line management will make any prioritization decisions and corrective action assignments necessary to appropriately respond to this report.

1. The decision process for identification of TQP participants should be revised to include those individuals who have previously been exempted due to a "Program Manager" designation. Assignment to the TQP should be based on whether the individual provides oversight or direction to the contractor, which could impact the safety of operations or activities at the INEEL.
2. A process for performance of continuing training and its documentation should be developed for the TQP. Documentation of continuing training conducted within the existing Facility Representative and Safeguards and Security programs should be performed.
3. The current Qualification Standards Matrix should be reviewed in light of the recently developed "critical skills mix" to assure that DOE-ID has and maintains the needed set of technically qualified personnel to support the evolving mission of the INEEL. Results of DOE-ID staffing plans should be reflected within the Matrix.
4. The list of "Qualifying Officials" should be revised to allow only those individuals recognized through completion of the Technical Qualification Program in a particular functional area to sign for subsequent qualifications. The Qualifying Officials should go through formal documented training on the duties and responsibilities associated with being a "Qualifying Official". The DOE-ID Technical Qualification Program should be revised to reflect this change.
5. Refresher training should be provided to all first line supervisors covering the TQP duties and responsibilities contained in OT-951.
6. A process to "trigger" the review of personnel transfers between organizations for the determination of inclusion in the Technical Qualification Program should be established.
7. DOE-ID Human Resources and the First Line Supervisors should review the Position Descriptions and Vacancy Announcements to better correlate the duties identified to the Technical Qualification Program. Requirements of the Technical Qualification Program should be implemented within these two documents.
8. DOE-ID Human Resources and the First Line Supervisors should review the Individual Development Plan process to better link those activities (training courses, on-the-job training, work experience activities, etc.) which support the Technical Qualification Program.
9. DOE-ID should make formal recommendation to the Chair of the Federal Technical Capability Panel, which would allow individuals to participate in the Senior Technical Safety Manager Program based on their ability to demonstrate their technical competence rather than their having a specific educational background.

10. ID should recommend to the Federal Technical Capability Panel the reestablishment of the “Technical Manager” Functional Area Qualification Standard.
11. A Functional Area Qualification Program should be developed, based on a formal needs analysis, for individuals responsible for Transportation Management. Pending creation and/or adoption by DOE-HQ, DOE-ID should develop a Functional Area Standard and initiate qualification candidate activities.
12. A general “house keeping” effort should be conducted to make each of the TQP Records consistent in documentation content.
13. The Technical Qualification Verification Forms should be examined to determine if they could be made more user friendly.
14. DOE-ID Human Resources should work with other DOE HR organizations to establish a system for TQP record transfer.
15. The TQP Tracker System should be evaluated to determine if it continues to serve a need for DOE-ID.